

## CLAIMS

What is claimed is:

- 1 1. A method for configuring access to a plurality of data repositories, the data  
2 repositories each providing a plurality of data objects, the method comprising:  
3 receiving a request to access data objects stored in the plurality of data repositories,  
4 the request including a parameter;  
5 retrieving metadata that characterizes at least a portion of the plurality of data objects  
6 in each data repository; and  
7 signaling a selection for one or more data objects from the plurality of data  
8 repositories based on the parameter in the request and the metadata.
- 1 2. The method of claim 1, wherein retrieving metadata includes identifying metadata  
2 from the request that characterizes a configuration for data objects in each data  
3 repository, wherein the configuration of each data repository indicates a relationship  
4 amongst at least a portion of the data objects in the plurality of data objects of each  
5 data repository, and wherein the configuration for at least some of the data  
6 repositories are different.
- 1 3. The method of claim 1,  
2 wherein retrieving metadata includes identifying metadata from the request that characterizes  
3 a configuration for data objects in each data repository, wherein the configuration of  
4 each data repository indicates a relationship amongst at least a portion of the data  
5 objects in the plurality of data objects of each data repository, and wherein the  
6 configuration for at least some of the data repositories are different; and  
7 wherein signaling a selection for one or more data objects from the plurality of data  
8 repositories includes generating a reconfigured request for each data repository in the  
9 plurality of data repositories, each reconfigured request being generated using  
10 metadata that characterizes the configuration of that data repository.

1 4. The method of claim 1,  
2 wherein retrieving metadata includes identifying metadata from the request that  
3 characterizes a configuration for data objects in each data repository, wherein the  
4 configuration of each data repository indicates a relationship amongst at least a  
5 portion of the data objects in the plurality of data objects of each data repository, and  
6 wherein the configuration for at least some of the data repositories are different; and  
7 wherein signaling a selection for one or more data objects from the plurality of data  
8 repositories includes:  
9 generating a reconfigured request for each data repository in the plurality of data  
10 repositories, each reconfigured request being generated using metadata that  
11 characterizes the configuration of that data repository, and  
12 retrieving the selected one or more data objects from the plurality of data repositories  
13 using the reconfigured requests.

1 5. The method of claim 1,  
2 wherein retrieving metadata includes identifying metadata from the request that characterizes  
3 a configuration for data objects in each data repository, wherein the configuration of  
4 each data repository indicates a relationship amongst at least a portion of the data  
5 objects in the plurality of data objects of each data repository, and wherein the  
6 configuration for at least some of the data repositories are different; and  
7 wherein signaling a selection for one or more data objects from the plurality of data  
8 repositories includes:  
9 generating a reconfigured request for each data repository in the plurality of data  
10 repositories, each reconfigured request being generated using metadata that  
11 characterizes the configuration of that data repository, and  
12 modifying the selected one or more data objects from the plurality of data repositories  
13 using the reconfigured requests.

TOOEEBO" 96244660

1 6. The method of claim 1,  
2 wherein retrieving metadata includes identifying metadata from the request that characterizes  
3 a configuration for data objects in each data repository, wherein the configuration of  
4 each data repository indicates a relationship amongst at least a portion of the data  
5 objects in the plurality of data objects of each data repository, and wherein the  
6 configuration for at least some of the data repositories are different; and  
7 wherein signaling a selection for one or more data objects from the plurality of data  
8 repositories includes:  
9 generating a reconfigured request for each data repository in the plurality of data  
10 repositories, each reconfigured request being generated using metadata that  
11 characterizes the configuration of that data repository; and  
12 deleting the selected one or more data objects from the plurality of data repositories  
13 using the reconfigured requests.

1 7. The method of claim 1,  
2 wherein retrieving metadata includes identifying metadata from the request that characterizes  
3 a configuration for data objects in each data repository, wherein the configuration of  
4 each data repository indicates a relationship amongst at least a portion of the data  
5 objects in the plurality of data objects of each data repository, and wherein the  
6 configuration for at least some of the data repositories are different; and  
7 wherein signaling a selection for one or more data objects from the plurality of data  
8 repositories includes:  
9 generating a reconfigured request for each data repository in the plurality of data  
10 repositories, each reconfigured request being generated using metadata that  
11 characterizes the configuration of that data repository, and  
12 creating one or more data objects using the reconfigured request, the data objects  
13 being created in one or more of the plurality of data repositories according to  
14 the configuration for the data objects in that data repository.

- 1 8. The method of claim 1, wherein identifying metadata based on the parameter in the  
2 request includes accessing a storage medium to retrieve metadata specified by the  
3 parameter in the request.
- 1 9. The method of claim 1, wherein retrieving metadata includes identifying metadata  
2 from the request that characterizes a configuration for data objects in each data  
3 repository, the configuration of each data repository indicating a class of data objects  
4 in each data repository that share an attribute.
- 1 10. The method of claim 1, wherein retrieving metadata includes identifying metadata  
2 from the request that characterizes a configuration for data objects in each data  
3 repository, the configuration of each data repository indicating an auxiliary class of  
4 data objects.
- 1 11. The method of claim 1,  
2 wherein retrieving metadata includes identifying a metadata structure from the request that  
3 identifies a plurality of auxiliary classes for each data repository; and  
4 wherein signaling a selection for one or more data objects from the plurality of data  
5 repositories includes determining whether the parameter is a valid feature of at least  
6 one of the plurality of auxiliary classes.

12. The method of claim 1, further comprising:  
 identifying one or more auxiliary classes for each data repository, each auxiliary class  
 including at least one data object having an attribute and a value for that attribute, the  
 value for that attribute further being modified by an auxiliary value that can only be  
 associated with the attribute by modifying the value of that attribute; and  
 associating a metadata structure with each auxiliary class;  
 wherein retrieving metadata includes identifying the metadata structure from the request that  
 identifies the one or more auxiliary classes for each data repository; and  
 wherein signaling a selection for one or more data objects from the plurality of data  
 repositories includes determining whether the parameter is valid for the attribute, the  
 value for the attribute, or the auxiliary value for the attribute.

13. The method of claim 1, wherein retrieving metadata includes identifying metadata  
 from the request that characterizes a configuration for data objects in each data repository, the  
 configuration of each data repository indicating select data objects of each data repository  
 that are linked to other data objects.

14. The method of claim 1, wherein retrieving metadata includes identifying a metadata  
 structure from the request that identifies a plurality of linked data objects for each data  
 repository, each of the plurality of linked data objects referencing another data object in the  
 data repository; and wherein the method further includes associating the metadata structure  
 with the plurality of linked data objects.

1 15. The method of claim 1,  
 2 wherein retrieving metadata includes identifying a metadata structure from the request that  
 3 identifies a plurality of linked data objects for each data repository, each linked data  
 4 object referencing a counterpart data object in the data repository; and  
 5 wherein signaling a selection for one or more data objects from the plurality of data  
 6 repositories using the metadata structure includes signaling a selection for one or  
 7 more linked data objects, and using the metadata structure to identify the counterpart  
 8 data object referenced by each linked data object.

1 16. The method of claim 1,  
 2 wherein retrieving metadata includes identifying a metadata structure from the request that  
 3 identifies an inheritable attribute for a plurality of data objects in at least one of the  
 4 plurality of data repositories, the inheritable attribute being located in at least one  
 5 superior data object; and  
 6 wherein signaling a selection for one or more data objects from the plurality of data  
 7 repositories includes determining that the parameter specifies the inheritable attribute,  
 8 and selecting a class of data objects that share the inheritable attribute.

1 17. A computer system coupleable to an application and to a plurality of data repositories,  
 2 the application signaling the computer system a request to access a plurality of data objects  
 3 from the plurality of data repositories, the computer system comprising:  
 4 a storage medium that stores at least a first metadata structure, the first metadata structure  
 5 characterizing multiple data objects in each data repository; and  
 6 a processing resource that is configured to use the first metadata structure to select one or  
 7 more data objects from the plurality of data repositories in response to an application  
 8 request to access data objects from a data repository.

1 18. The computer system of claim 17, wherein the metadata structure characterizes, for  
 2 each data repository, a configuration for how select data objects relate to other data objects in  
 3 the plurality of data objects of that data repository.

1 19. The computer system of claim 17, wherein the first metadata structure includes a  
2 plurality of metadata items, and wherein the processing resource identifies a parameter in the  
3 request, uses the parameter to identify a first metadata item in the first metadata structure, and  
4 selects the one or more data objects using the first metadata item.

1 20. The computer system of claim 17, wherein the metadata structure includes a plurality  
2 of metadata items, and wherein the processing resource identifies a parameter in the request,  
3 uses the parameter to identify a first metadata item in the metadata structure, selects the one  
4 or more data objects using the first metadata item, and performs an operation specified in the  
5 request to access the data repositories on the selected one or more data objects.

1 21. The computer system of claim 17, wherein the first metadata structure identifies data  
2 objects in each data repository that are linked to other data objects.

1 22. The computer system of claim 17, wherein the first metadata structure identifies one  
2 or more linked data objects in the data repositories, the linked data objects referencing other  
3 data objects in the data repository, and wherein the first metadata structure identifies the other  
4 data objects references by the linked data objects.

1 23. The computer system of claim 17, wherein the first metadata structure identifies one  
2 or more linked data objects in the data repositories, the linked data objects referencing other  
3 data objects in the data repository, and wherein the first metadata structure identifies the other  
4 data objects references by the linked data objects, and wherein the processing resources  
5 identify an operation from the request to access the plurality of data repositories, and wherein  
6 the processing resources implement that operation on the linked data objects and the other  
7 data objects that reference the linked data objects.

1 24. The computer system of claim 17, wherein the first metadata structure identifies an  
2 auxiliary class of data objects in the plurality of data objects of each data repository, the  
3 auxiliary class of data objects including an auxiliary characteristic that modifies and is  
4 dependent on another characteristic of a data object in the auxiliary class of data objects.

1 25. The computer system of claim 17, wherein the first metadata structure identifies an  
2 auxiliary class of data objects in the plurality of data objects of each data repository, the  
3 auxiliary class of data objects including an auxiliary characteristic that modifies and is  
4 dependent on another characteristic of a data object in the auxiliary class of data objects, and  
5 wherein the processing resource identifies a parameter in the request, uses the parameter to  
6 identify the auxiliary class for one or more of the data repositories, and selects the one or  
7 more data objects that are in the auxiliary class.

1 26. The computer system of claim 17, The computer system of claim 10, wherein the first  
2 metadata structure identifies an auxiliary class of data objects in the plurality of data objects  
3 of each data repository, the auxiliary class of data objects including an auxiliary characteristic  
4 that modifies and is dependent on another characteristic of a data object in the auxiliary class  
5 of data objects, and wherein the processing resource identifies a parameter in the request,  
6 uses the parameter to identify the auxiliary class for one or more of the data repositories,  
7 selects the one or more data objects that are in the auxiliary class, and performs an operation  
8 identified by the request to access the data repositories on the one or more data objects in the  
9 auxiliary class.

1 27. The computer system of claim 17, wherein the first metadata structure identifies an  
2 inheritable attribute shared by data objects in an object class of each data repository.



28. The computer system of claim 17, wherein the first metadata structure identifies an inheritable attribute shared by data objects in an object class, and wherein the first metadata structure identifies a superior data object class and a subordinate object class for the object class having the inheritable attribute.

29. The computer system of claim 17, wherein the first metadata structure identifies an inheritable attribute shared by data objects in an object class, and identifies a superior data object and a subordinate object class for the object class having the inheritable attribute, and wherein the processing resources are configured to identify the inheritable attribute from the request, to identify an operation specified in the request, to identify the object class having the inheritable attribute, and to apply the operation to the object class having the inheritable attribute.

30. A computer-readable medium carrying sequences of instructions for configuring access to a plurality of data repositories that provide a plurality of data objects, the sequences of instructions including instructions for performing the steps of:

- receiving a request to access data objects stored in the plurality of data repositories, the request including a parameter;
- retrieving metadata that characterizes at least a portion of the plurality of data objects in each data repository; and
- signaling a selection for one or more data objects from the plurality of data repositories using the parameter in the request and the metadata.

31. The computer-readable medium of claim 30, further comprising instructions for performing the steps of:

identifying metadata from the request that characterizes a configuration for data objects in each data repository, the configuration of each data repository indicating a relationship amongst at least a portion of the data objects in the plurality of data objects of each data repository, wherein the configuration for at least some of the data repositories are different.

32. The computer-readable medium of claim 30, further comprising instructions for performing the steps of:

- identifying metadata from the request that characterizes a configuration for data objects in each data repository, the configuration of each data repository indicating a relationship amongst at least a portion of the data objects in the plurality of data objects of each data repository, wherein the configuration for at least some of the data repositories are different; and
- generating a reconfigured request for each data repository in the plurality of data repositories, each reconfigured request being generated using metadata that characterizes the configuration of that data repository.

33. The computer-readable medium of claim 30, further comprising instructions for performing the steps of:

- identifying metadata from the request that characterizes a configuration for data objects in each data repository, the configuration of each data repository indicating a relationship amongst at least a portion of the data objects in the plurality of data objects of each data repository, wherein the configuration for at least some of the data repositories are different; and
- generating a reconfigured request for each data repository in the plurality of data repositories, each reconfigured request being generated using metadata that characterizes the configuration of that data repository, and
- retrieving the selected one or more data objects from the plurality of data repositories using the reconfigured requests.

1 34. The computer medium of claim 30, further comprising instructions for performing the  
2 steps of:  
3 identifying metadata from the request that characterizes a configuration for data objects in  
4 each data repository, the configuration of each data repository indicating a  
5 relationship amongst at least a portion of the data objects in the plurality of data  
6 objects of each data repository, wherein the configuration for at least some of the data  
7 repositories are different; and  
8 generating a reconfigured request for each data repository in the plurality of data repositories,  
9 each reconfigured request being generated using metadata that characterizes the  
10 configuration of that data repository, and  
11 modifying the selected one or more data objects from the plurality of data repositories using  
12 the reconfigured requests.

1 35. The computer-readable medium of claim 30, further comprising instructions for  
2 performing the steps of:  
3 identifying metadata from the request that characterizes a configuration for data objects in  
4 each data repository, the configuration of each data repository indicating a  
5 relationship amongst at least a portion of the data objects in the plurality of data  
6 objects of each data repository, wherein the configuration for at least some of the data  
7 repositories are different; and  
8 generating a reconfigured request for each data repository in the plurality of data repositories,  
9 each reconfigured request being generated using metadata that characterizes the  
10 configuration of that data repository; and  
11 deleting the selected one or more data objects from the plurality of data repositories using the  
12 reconfigured requests.

36. The computer-readable medium of claim 30, further comprising instructions for performing the steps of:

- identifying metadata from the request that characterizes a configuration for data objects in each data repository, the configuration of each data repository indicating a relationship amongst at least a portion of the data objects in the plurality of data objects of each data repository, wherein the configuration for at least some of the data repositories are different; and
- generating a reconfigured request for each data repository in the plurality of data repositories, each reconfigured request being generated using metadata that characterizes the configuration of that data repository; and
- creating one or more data objects using the reconfigured request, the data objects being created in one or more of the plurality of data repositories according to the configuration for the data objects in that data repository.

37. A computer system for configuring access to a plurality of data repositories that provide a plurality of data objects, the computer system comprising:

- means for receiving a request to access data objects stored in the plurality of data repositories, the request including a parameter;
- means for retrieving metadata that characterizes at least a portion of the plurality of data objects in each data repository; and
- means for signaling a selection for one or more data objects from the plurality of data repositories using the parameter in the request and the metadata.